



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,953	03/15/2004	Greg Galazin	HOL01 P453	9955

277 7590 09/20/2007
PRICE HENEVELD COOPER DEWITT & LITTON, LLP
695 KENMOOR, S.E.
P O BOX 2567
GRAND RAPIDS, MI 49501

EXAMINER

MCCREARY, LEONARD

ART UNIT	PAPER NUMBER
----------	--------------

3616

MAIL DATE	DELIVERY MODE
-----------	---------------

09/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/800,953

Applicant(s)

GALAZIN ET AL.

Examiner

Leonard J. McCreary, Jr.

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 10-20 and 22-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5, 6, 15, 18-20 and 22-31 is/are allowed.
- 6) ☒ Claim(s) 16, 17 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 16-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over 5,366,237 to Dilling et al. Dilling discloses a trailing arm axle suspension comprising the following:

- a. A suspension system for suspending a vehicle frame above a plurality of ground-engaging wheels, comprising: a wheel-carrying axle 7 comprising a first end and a second end; a pair of frame bracket assemblies 41, 55 operably coupled to opposite sides of the vehicle frame; and a pair of shock absorbers 57 each comprising a first end operably coupled to the vehicle frame (Fig. 8) and a second end; and a pair of trailing arms 42, 69 each comprising a first end operably coupled to the first end and the second end of the axle, respectively, a second end operably coupled to one of the frame bracket assemblies, and an outwardly extending shock support tang (Fig. 12) operably coupled to one of the shock absorbers (claim 16.)

b. The shock support tang is located proximate the first end of the trailing arm (claim 17.)

3. Dilling does not specifically teach casting the trailing arms. Re claim 16, it would have been obvious to one of ordinary skill in the art at the time of invention to manufacture the trailing arms according to old and well-known metal forming processes such as casting, welding, forging, hydroforming, magnaforming, etc.

4. Claim 32 stands rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0130480 to VanDenberg in view of US 3,904,300 to Hetmann. VanDenberg discloses a variable compliance pivot assembly and suspension system comprising the following:

5. A suspension system for suspending a vehicle frame above a plurality of ground-engaging wheels, comprising: a wheel-carrying axle 4 comprising a first end and a second end; a pair of frame bracket 14 assemblies each comprising a resiliently-bushed pivotable connection 34 defining a pivot axis, the frame bracket assemblies operably coupled to opposite sides of the vehicle frame, the resiliently-bushed pivotable connection comprising a substantially cylindrically shaped bushing 40; and a pair of trailing arms 20 each comprising a first end operably coupled to the first end and the second end of the axle, respectively, and a second end comprising an aperture 50 that receives the bushing of one of the frame bracket assemblies therein, and a nonsymmetrical compression of the bushing about the pivot axis when no external force is exerted on the suspension system (fig 2-3) (clm 32).

6. VanDenberd does not disclose an oval-shaped aperture. Hetman discloses an elastic joint and teaches the aperture of the second end of each trailing arm is oval-shaped. Re claim 32, it would have been obvious to one of ordinary skill in the art at the time the apparatus was made to modify the trailing arm suspension of VanDenberg to include oval-shaped apertures as taught by Hetman so as to provide different resilience along different operational axes (col 4, lin 3-23.)

Response to Arguments

7. Applicant's arguments have been fully considered but they are not persuasive. Re claims 16-17, Applicant argues that it cast-forming is a patentable limitation because it results in significant cost savings. Examiner disagrees and notes that it is within the level of one of ordinary skill in the art to determine the most cost effective method of producing a trailing arm. Though casting is inexpensive in high-production environments, low-production processes such as those often associated with the manufacture of large trucks make high tooling costs to develop the molds prohibitive. In such cases welding or one of the other above mentioned forming methods may prove less expensive. Another factor associated with production costs include the local cost of skilled or semi-skilled labor for welders. Some applications requiring a minimum fatigue life, factor of safety, or strength:weight ratio may also render casting a poor choice, since it is difficult to eliminate voids in the cast piece, and such processes require either elevated costs associated with the casting process or elevated costs associated with quality control using magnetic particle testing, x-ray, or the like.

Allowable Subject Matter

8. Claims 1-3, 6, 10-20, 22- allowed.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

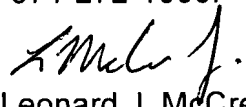
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

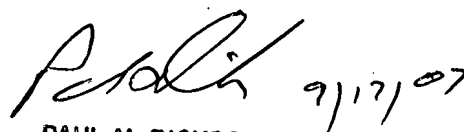
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. McCreary, Jr. whose telephone number is 571-272-8766. The examiner can normally be reached on 0700-1700 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Leonard J. McCreary, Jr.
Examiner
Art Unit 3616


PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600